IN THE CLAIMS

1. (currently amended) A method for analyzing at least one abnormality of an object, the method comprising:

obtaining a first image containing an abnormality using a first modality;

obtaining a second image containing the abnormality using a second modality;

selecting a first region of interest located within the first image;

determining an anatomical size of the abnormality based on the first region of interest in the first image; and

determining a relative metabolic activity based on a second region of interest within the second image and correlating the relative metabolic activity to the abnormality based on a threshold value.

2. (original) A method in accordance with Claim 1 wherein obtaining the second image comprises obtaining the second image containing the abnormality using the second modality within a short amount of time after obtaining the first image.

3. (original) A method in accordance with Claim 1 wherein selecting the first region of interest comprises manually selecting the first region of interest located within the first image.

4. (original) A method in accordance with Claim 1 further comprising:

resizing the second region of interest to match the anatomical size determined from the first region of interest.

5. (original) A method in accordance with Claim 1 wherein determining the relative metabolic activity comprises determining a relative metabolic activity based in part on the anatomical size of the first region of interest.

6. (original) A method in accordance with Claim 1 wherein determining the relative metabolic activity comprises distinguishing metabolic activity within the second region of interest from background metabolic activity.

7. (previously presented) A method in accordance with Claim 1 wherein determining the relative metabolic activity comprises determining whether the metabolic activity within the second region of interest has a likelihood of being related to the abnormality.

8. (original) A method in accordance with Claim 1 wherein determining the anatomical size comprises determining at least one of an area of the first region of interest and a volume of the first region of interest.

9. (previously presented) A method in accordance with Claim 1 wherein determining the anatomical size comprises automatically determining a size based on an area of the first image corresponding to the first region of interest.

10. (currently amended) A computer-readable medium encoded with a program configured to instruct a computer to:

obtain a computed tomography (CT) image containing an abnormality by performing a CT scan of an object;

obtain a positron emission tomography (PET) image containing the abnormality by performing a PET scan of the object;

select a first region of interest located within the CT image;

determine an anatomical size of the abnormality based on the first region of interest in the CT image; ~~and~~

determine a relative metabolic activity based on a second region of interest located on the PET image; and

correlate the relative metabolic activity to the abnormality based on a threshold value.

11. (original) A computer-readable medium in accordance with Claim 10 wherein to obtain the PET image the program configured to obtain the PET image containing the abnormality using a PET scanner within a short amount of time after obtaining the CT image.

12. (original) A computer-readable medium in accordance with Claim 10 wherein to select the first region of interest the program configured to wait for a user to select the first region of interest located within the CT image.

13. (original) A computer-readable medium in accordance with Claim 10 wherein the program is further configured to:

mathematically interpolate the relative metabolic activity to determine metabolic activity within the first region of interest.

14. (original) A computer-readable medium in accordance with Claim 10 wherein to determine the relative metabolic activity the program configured to determine a relative metabolic activity based in part on the anatomical size of the first region of interest.

15. (original) A computer-readable medium in accordance with Claim 10 wherein to determine the relative metabolic activity the program configured to distinguish metabolic activity within the second region of interest from background metabolic activity.

16. (original) A computer-readable medium in accordance with Claim 10 wherein to determine the relative metabolic activity the program configured to determine whether the metabolic activity within the second region of interest has a likilihood of being related to the abnormality.

17. (original) A computer-readable medium in accordance with Claim 10 wherein to determine the anatomical size the program configured to determine at least one of an area of the first region of interest and a volume of the first region of interest.

18. (previously presented) A computer-readable medium in accordance with Claim 10 wherein to determine the anatomical size comprises automatically determining a size based on an area of the CT image corresponding to the first region of interest.

19. (currently amended) A computer-readable medium programmed to:

obtain a CT image containing an abnormality by performing a computed tomography (CT) scan of an object;

obtain a PET image containing the abnormality by performing a positron emission tomography (PET) scan of the object;

select a first region of interest located within the CT image;

determine an anatomical size of the abnormality based on the first region of interest in the CT image; ~~and~~

determine a relative metabolic activity based on a second region of interest located on the PET image; and

correlate the relative metabolic activity to the abnormality based on a threshold value.

20. (currently amended) An imaging system for analyzing at least one abnormality of an object, the imaging system comprising:

a radiation source;

a radiation detector; and

a controller operationally coupled to the radiation source and the radiation detector, the controller configured to:

obtain a first image containing an abnormality by performing a computed tomography (CT) scan of an object;

obtain a second image containing the abnormality by performing a positron emission tomography (PET) scan of the object;

select a first region of interest located within the first image;

determine an anatomical size of the abnormality based on the first region of interest in the CT image; ~~and~~

determine a relative metabolic activity based on a second region of interest located on the second image; and

correlate the relative metabolic activity to the abnormality based on a threshold value.

21. (original) An imaging system in accordance with Claim 20 wherein to obtain the second image the controller configured to obtain the second image containing the abnormality using a PET scanner within a short amount of time after obtaining the first image

22. (original) An imaging system in accordance with Claim 20 wherein the controller is further configured to mathematically interpolate the relative metabolic activity to determine metabolic activity within the first region of interest.

23. (original) An imaging system in accordance with Claim 20 wherein to determine the relative metabolic activity the controller configured to determine a relative metabolic activity is based in part on the anatomical size of the first region of interest.

24. (original) An imaging system in accordance with Claim 20 wherein the imaging system is a PET-CT system and wherein the abnormality is at least one of a lung nodule, an abnormality of a colon of the object, an abnormality of a liver of the object, an abnormality of a breast of the object, an abnormality of an arm of the object, and an abnormality of a brain of the object.

25. (currently amended) An imaging system for analyzing at least one abnormality of an object, the imaging system comprising:

a radiation source;

a radiation detector; and

a controller operationally coupled to the radiation source and the radiation detector, the controller configured to:

obtain a computed tomography (CT) image containing an abnormality by performing a CT scan of an object;

obtain a positron emission tomography (PET) image containing the abnormality by performing a PET scan of the object;

select a first region of interest located within the CT image;

determine an anatomical size of the abnormality based on the first region of interest in the CT image; ~~and~~

determine a relative metabolic activity based on a second region of interest located on the PET image; and

correlate the relative metabolic activity to the abnormality based on a threshold value.